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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/748,935	11/13/96	IMAI	S 44085-32

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MCDERMOTT WILL & EMERY  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

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EXAMINER

NGUYEN, T

ART UNIT

PAPER NUMBER

2779

DATE MAILED:

07/14/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/748,935

Applicant(s)

Iai; Fujii; Fujiwara; Sakagawa; Nakagawa; Matsuu

Examiner

Thu Nguyen

Group Art Unit

2779



☒ Responsive to communication(s) filed on: May 18, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-33 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-33 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 29, 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (U.S Patent No. 5,754,680) (Sato '680) in view of Sato et al (U.S Patent No. 5,398,293) (Sato '293).

As per claim 1, 29, 32, Sato '680 teaches a method of generating three-dimensional form data. The method comprises the steps of: preparing a three dimensional form model made of a first quantity of data (col.1, lines 30-36; col.2, lines 21-23); projecting a plurality of lines along the surface of the object (fig.5A-E; boxes S3 and S4, fig.4); outputting a three dimensional form data based on the lines for the model and the quantity of the outputted data is smaller than the first quantity of data (col.1, lines 56-63; col.5, lines 59-62).

Sato '680 does not teach modifying the projected lines by adding at least one line to the projected lines. However, Sato '293 teaches modifying lines by adding at least a line (col.6, lines 50-64). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the method of adding a line to a group of lines as taught by Sato

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'293 to the method of reducing data representing an object of Sato '680. The motivation for this would have been to enable user to edit and control the quantity of the reduced data generated from the shape expression apparatus of Sato '680.

As per claim 2, Sato '680 teaches expressing projected lines as parametric curve group (col.5, lines 48-58).

As per claim 33, Sato '680 teaches obtaining the data from an input device outside the computer (col.1, lines 30-35).

3. Claims 3-8, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '680 in view of Sato '293, and further in view of Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 3, 30, Letcher teaches defining control points and moving control points along the surface of a model (col.16, lines 29-40). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the control point taught by Letcher to move the lines along the surface of the object of Sato '680. The motivation for this would have been to

As per claim 4, 6, displaying the generated three dimensional form data would have been well known to an ordinary person skill in the art.

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As per claim 5, refer to discussion in claim 2 above.

As per claim 7, refer to discussion in claims 1 and 3 above.

As per claim 8, 31, refer to discussion in claim 1 above. Further, Letcher teaches deleted at least one line to the projected lines (col.13, lines 57-58).

4. Claims 9-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Letcher, Jr. (U.S Patent No. 5,627,949).

As per claim 23, Letcher teaches a computer implemented method of generating a three-dimensional form data. The method comprises the steps of: generating a plurality of lines and projecting the lines to generate a group of curves along a surface of a three dimensional form model (fig.27; col.12, lines 41-43; col.15, lines 60-67; col.16, lines 1-23); and modifying the group of curves by moving a curve in the group (col.3, lines 50-63; col.16, lines 30-37 and col.13, lines 57-67). Letcher does not explicitly teach moving a curve or curves along a surface of the three dimensional form model. However, Letcher teaches changing the coordinate of a control point of a curve on the surface of the model (col.16, lines 5-8 and lines 30-37), it would have been obvious to a person of ordinary skill in the art at the time the invention was made that when a control point of a curve is changed, the curve is changed according to the control point. Since the curve depends on the surface of the model, when the curve is changed, the surface of

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the model must change to contain the curve, this fact implies that the curve change along the surface of the model as claimed.

As per claim 24-25, refer to discussion in claim 23 above. Further, Letcher teaches adding a curve to the group of curves as claimed (col.13, lines 63-65) and deleting a curves from the group of curves as claimed (col.13, lines 65-67).

As per claim 26-28, refer to discussion in claims 23-25 above. The claimed software and medium for executing the program is the extend of the claimed method above.

As per claim 9, refer to discussion in claim 23 above. The claimed computer medium is the extent of the claimed method of claim 1 above.

As per claim 10-12, the claimed memory devices would have been well known to a person of ordinary skill in the art at the time the invention was made.

As per claim 13-22, refer to discussion in claims 23-24, 10-12, and 25 above.

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***Response to Arguments***

5. Applicant's arguments filed 5/18/2000 have been fully considered.

Arguments on claims 9-28 are not persuasive. The claims 9-28 does not distinctly claimed the subject matter as explained by applicant in page 6-8. Claims 9-28 read on Letcher, Jr teaching, because Letcher, Jr. does teaches generating a contour object utilizing planes, cylinders, etc. in col.12, lines 36-37; this contour concept can be used to generate a model such as the ship in fig.27 using several planes. Lines could then be projected on to the contour planes (which generates a model) as taught by Letcher in col.12, lines 41-43. Claim 9-28 do not highlight the essential details that distinguish the present invention with Letcher's teachings--specifically, the claims do not highlight the difference between generating a model of the present invention from generating the model of Letcher (as explained above, the model of Letcher can be generated from contour object concept). Essential details in page 7 last paragraph and page 8, lines 1-2 and page 8 first paragraph that applicant insists as his invention is not found in the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Guens*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Amended claims 1-3, 5, 7, 8 and newly added claims 29-33 are rejected in view of new ground of rejection.

***Notice***

The examiner in charge of this application has been transferred to the new art unit 2779. Please indicate the appropriate art unit in future correspondence.

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**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**Or:**

(703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

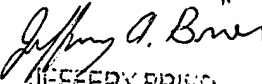
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (703) 306-9130. The examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powell, can be reached on (703) 305-9703. The fax phone number for this Group is (703)308-6606 .

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-3900.

NTV

June 22, 2000

  
JEFFERY BRIER  
PRIMARY EXAMINER